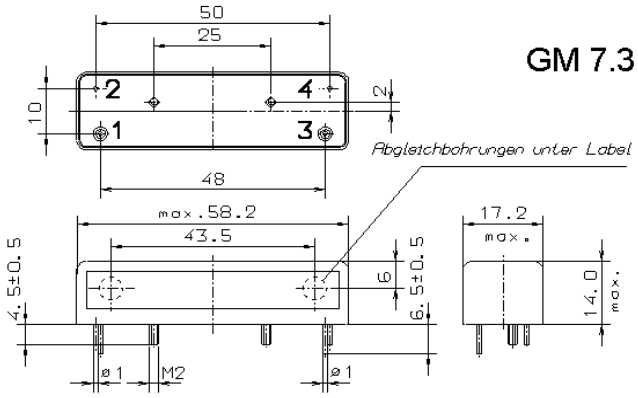
VECTRON INTERNATIONAL
A DOVER TECHNOLOGIES COMPANY

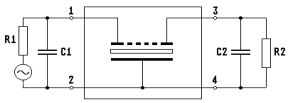
06 February 2003

Specification for monolithic crystal filter
M Q F 4 0 . 0 4 8 - 2 0 0 0 / 0 2 V 1

1. General

1.1. Case:





1.2.	Type name:	MQF 40.048-2000/02V1
1.3.	Number of poles:	6, 3 rd overtone
1.4.	Operable temperature range:	-40°C to 85°C
1.5.	Operating temperature range:	-20°C to 70°C
1.6.	Storage temperature range:	-55°C to 90°C

2. Electric values

2.1.	Nominal centre frequency fo:	40.048 MHz
2.2.	**Pass band**	
2.2.1.	Bandwidth between 3 dB - frequencies:	≥ fo ± 10 kHz
2.2.2.	Ripple at fo ± 4.0 kHz:	≤ 1.5 dB at 25°C ≤ 2.0 dB in operating temperature range
2.2.3.	Change of group delay between different samples of the same type:	≤ 300 µs (at f_o ± 4 kHz)
2.2.4.	Insertion loss: (measured on smallest attenuation in pass band)	≤ 4.0 dB at 25°C ≤ 4.5 dB in operating temperature range
2.3.	**Stop band**	
2.3.1.	fo ± 76 kHz	≥ 60 dB
2.3.2.	39.932 MHz.....39.972 MHz	≥ 70 dB
2.3.3.	fo +76 kHz.....+250 MHz	≥ 60 dB
2.3.4.	Spurious responses:	≥ 40 dB

2.4.	Terminating impedance (input and output):	50 Ω // 0 pF

2.5. Intermodulation

2.5.1.	Outband - intermodulation	
	frequency 1:	$f_o \pm 30$ kHz
	frequency 2:	$f_o \pm 60$ kHz
	input power level at pin 1(input):	-6 dBm
	IM:	≥ 75 dB (in relation to pin 3)
2.5.2.	Inband - intermodulation	
	frequency 1:	f_o +1 kHz
	frequency 2:	f_o -1 kHz
	input power level at pin 3 (output):	0 dBm
	IM:	≥ 50 dB (in relation to pin 1)
2.6.	Maximum input power level:	0 dBm
2.7.	Maximum input power level:	20 dBm (without damage)

2.8. It is possible to tune the filter after removing the label from the side of the filter:
Input: with square-headed screwdriver 1.15 x 1.15 mm
Output: with screwdriver 1.0 x 1.5 mm
The consequence of this is that guarantee become void for points 2.1 to 2.5 as well as 3.3 and 3.5.

3. <u>Environment conditions</u>

3.1.	Vibration according to IEC 68-2-6 test FC (filter case shall be fastened to the vibration table)	
	- frequency range (with total amplitude 0.7 mm):	10 Hz - 55 Hz
	- acceleration:	49.05 m/s²
	- duration:	0.5 hours
3.2.	Shock according to IEC 68-2-27, test Ea	
	- number of directions:	3
	- peak acceleration:	490.5 m/s²
	- duration of the nominal pulse:	11 ms
	- number of shocks:	3
3.3.	Humidity test Db 40 according to IEC 68-2-30	21 cycles
3.4.	Aging:	1000 hours at 70°C ± 3°C
3.5.	Change of temperature according to IEC 68-2-14	
	- temperatures:	–25°C / 70°C
	- exposure time:	30 minutes
	- cycles:	10

4. <u>Others</u>

4.1.	Design:	case soldered
4.2.	Weight:	≤ 35 g
5.	**Marking on the case:**	firm, year week MQF 40.048-2000/02V1

Edited by: date: name: